

**METHOD AND APPARATUS FOR ATTACHING CONNECTIVE TISSUES  
TO BONE USING A KNOTLESS SUTURE ANCHORING DEVICE**

**Abstract of the Invention**

5           An innovative bone anchor and methods for securing soft tissue, such as  
tendons, to bone, which permit a suture attachment that lies entirely beneath the  
cortical bone surface. Advantageously, the suturing material between the soft  
tissue and the bone anchor is secured without the need for tying a knot. The suture  
attachment to the bone anchor involves the looping of a length of suture around a  
10   pulley within the bone anchor, tightening the suture and attached soft tissue, and  
compressing the suture against the bone anchor. The bone anchor may be a tubular  
body having a lumen with a locking plug that compresses the suture therein. The  
pulley may be a pin located near a distal end of the tubular body around which the  
length of suture is looped. Alternatively, a pulley may be a bridge portion of the  
15   tubular body between two spaced apertures in the wall of the body. The locking  
plug may include a shaft and an enlarged head that interferes with the tubular body  
to provide a positive stop. An actuation rod attached at a frangible section to the  
shaft may be manipulated by an external handle during locking of the suture within  
the bone anchor. The bone anchor further may include locking structure for  
20   securing itself within a bone cavity.